

In the claims:

For the Examiner's convenience, all pending claims are presented below with changes shown in accordance with the mandatory amendment format.

1. (Currently Amended) A method comprising:

executing, by a server device, a multi-threaded application having at least one thread to monitor a port of the server device for received requests from a plurality of client devices;

~~receiving a request from a first client device to multicast a file as a plurality of packets of data from a server device to multiple client devices by executing a multi-threaded application with at least one thread monitoring a port designated for receiving multicast requests;~~

executing, by the server device, at least three request handlers to manage any of the received requests from remote the plurality of client devices, the at least three request handlers comprising an upload request handler, a multicast download request handler and a unicast download request handler;

detecting, by the server device, that a multicast request is received from a first client device of the plurality of client devices;

invoking, by the server device, the multicast download request handler in order to save session information regarding the received multicast request and create another thread of the multi-threaded application to service the received multicast request;

wherein servicing the received multicast request by the another thread further comprises:

transmitting the plurality of packets of data from ~~[[a]]~~ the server device to the multiple client devices using a multicast trivial file transfer protocol (TFTP) as a TFTP-compliant flow; and

~~applying, by the server,~~ one or more flow control techniques not defined by the multicast TFTP to the TFTP-compliant flow, wherein the flow control techniques ~~comprise[[s]] at least~~ determining whether the server device has sufficient resources to satisfy the request based on a block size corresponding to the request and an available bandwidth, and sending an error packet to the first client device if the server device does not have sufficient resources to satisfy the request.

2. (Original) The method of claim 1 wherein applying, by the server, one or more flow control techniques not defined by multicast TFTP comprises delaying a start of the transmission of the plurality of packets.

3. (Original) The method of claim 1 wherein applying, by the server, one or more flow control techniques not defined by multicast TFTP comprises:

determining whether a request to download the file is a subject of an existing multicast download session; and

causing the multiple client devices to join an existing multicast group corresponding to the existing multicast download session.

4. (Original) The method of claim 1 wherein applying, by the server, one or more flow control techniques not defined by multicast TFTP comprises modifying quality of service based, at least in part, on resource conditions.

5. (Original) The method of claim 4 wherein modifying the quality of service comprises one or more of: modifying block size and modifying timeout length.

6. (Original) The method of claim 1 wherein applying, by the server, one or more flow control techniques not defined by multicast TFTP comprises reducing a packet transmission rate.

7. (Original) The method of claim 1 wherein applying, by the server, one or more flow control techniques not defined by multicast TFTP comprises retransmitting a most recently transmitted packet in response to receiving an unexpected packet.

8. (Currently Amended) A server device comprising:

a network interface to receive messages from ~~one or more~~ a plurality of client devices including requests to download a file stored by the server device;

a memory coupled with the network interface to store the file; and

a processor coupled with the memory and the network interface, the processor configured to:

execute a multi-threaded application having at least one thread to monitor a port of the server device for received requests from the plurality of client devices;

~~receive a request from a first client device of the one or more client devices to multicast the file as a plurality of packets of data from the server device to the one or more client devices by executing a multi-threaded application with at least one thread monitoring a port designated for receiving multicast requests;~~

execute at least three request handlers to manage any of the received requests from ~~remote~~ the plurality of client devices, the at least three request handlers comprising an upload request handler, a multicast download request handler and a unicast download request handler;

detect that a multicast request is received from a first client device of the plurality of client devices;

invoke the multicast download request handler in order to save session information regarding the received multicast request and create another thread of the multi-threaded application to service the received multicast request;

wherein servicing the received multicast request by the another thread further comprises the processor to:

transmit the plurality of packets of data from ~~[[a]]~~ the server device to the one or more ~~multiple~~ client devices using a multicast trivial file transfer protocol (TFTP) as a TFTP-compliant flow; and

apply one or more flow control techniques not defined by the multicast TFTP to the TFTP-compliant flow, wherein the flow control techniques ~~comprise~~ at least determining whether the server device has sufficient resources to satisfy the request based on a block size corresponding to the request and an available

bandwidth, and sending an error packet to the first client device if the server device does not have sufficient resources to satisfy the request.

9. (Original) The server of claim 8 wherein the one or more flow control techniques not defined by multicast TFTP comprises delaying a start of the transmission of the plurality of packets.

10. (Original) The server of claim 8 wherein the one or more flow control techniques not defined by multicast TFTP comprises determining whether a request to download the file is a subject of an existing multicast download session, and causing the multiple client devices to join an existing multicast group corresponding to the existing multicast download session.

11. (Original) The server of claim 8 wherein the one or more flow control techniques not defined by multicast TFTP comprises modifying quality of service based, at least in part, on resource conditions.

12. (Original) The server of claim 11 wherein modifying the quality of service comprises one or more of: modifying block size and modifying timeout length.

13. (Original) The server of claim 8 wherein the one or more flow control techniques not defined by multicast TFTP comprises reducing a packet transmission rate.

14. (Currently Amended) A non-transitory computer-readable medium having stored thereon instructions that, when executed by one or more processors, cause the one or more processors to:

execute a multi-threaded application having at least one thread to monitor a port of a server device for received requests from a plurality of client devices;

~~receive a request from a first client device to multicast a file as a plurality of packets of data from a server device to multiple client devices by executing a multi-threaded application with at least one thread monitoring a port designated for receiving multicast requests;~~

execute at least three request handlers to manage any of the received requests from ~~remote~~ the plurality of client devices, the at least three request handlers comprising an upload request handler, a multicast download request handler and a unicast download request handler;

detect that a multicast request is received from a first client device of the plurality of client devices;

invoke the multicast download request handler in order to save session information regarding the received multicast request and create another thread of the multi-threaded application to service the received multicast request;

wherein servicing the received multicast request by the another thread further comprises the server device to:

transmit the plurality of packets of data from ~~[[a]]~~ the server device to the multiple client devices using a multicast trivial file transfer protocol (TFTP) as a TFTP-compliant flow; and

apply, ~~by the server~~, one or more flow control techniques not defined by the multicast TFTP to the TFTP-compliant flow, wherein the flow control techniques comprise[[s]] ~~at least~~ determining whether the server device has sufficient resources to satisfy the request based on a block size corresponding to the request and an available bandwidth, and sending an error packet to the first client device if the server device does not have sufficient resources to satisfy the request.

15. (Original) The medium of claim 14 wherein the instructions that cause the one or more processors to apply, by the server, one or more flow control techniques not defined by multicast TFTP comprise instructions that, when executed, cause the one or more processors to delay a start of the transmission of the plurality of packets.

16. (Original) The medium of claim 14 wherein the instructions that cause the one or more processors to apply, by the server, one or more flow control techniques not defined by multicast TFTP comprise instructions that, when executed, cause the one or more processors to:

determine whether a request to download the file is a subject of an existing multicast download session; and

cause the multiple client devices to join an existing multicast group corresponding to the existing multicast download session.

17. (Original) The medium of claim 14 wherein the instructions that cause the one or more processors to apply, by the server, one or more flow control techniques not defined by

multicast TFTP comprise instructions that, when executed, cause the one or more processors to modify quality of service based, at least in part, on resource conditions.

18. (Original) The medium of claim 14 wherein the instructions that cause the one or more processors to apply, by the server, one or more flow control techniques not defined by multicast TFTP comprise instructions that, when executed, cause the one or more processors to reduce a packet transmission rate.

19-22. (Canceled)